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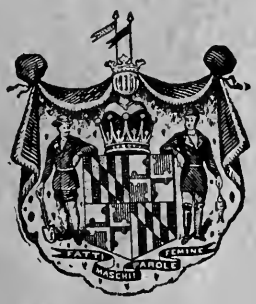
Medicine and Surgery



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LOCAL DIRECTORY

Medical Society Meetings

MARYLAND

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COLON RESECTION AND ITS INDICATIONS: REPORT OF CASES.*†

By Frank Martin, M.D.,
Professor of Operative Surgery and Clinical Surgery in the University of Maryland, Baltimore.

NOTE—Since this was published one other case has been successfully done.

THE colon, as we all know, is quite commonly affected with obstructive lesions due to growths, strictures, or what-not; but the most common factor is cancer, especially of the rectum, the ascending colon, the sigmoid, and lastly, the splenic flexure and transverse colon. It so happens that I have had to deal with it in these various locations a number of times. The two factors which impress me as exceptionally important in reference to the work on colon surgery are, first, a keen insight into the vascular distribution of the colon, and, second, an accurate knowledge of its lymphatic distribution.

First, in reference to the vascular distribution, it is along the arteries that the lymph currents flow and the lymph-glands chiefly lie. The large intestine is supplied by branches of the superior mesenteric artery and by the inferior mesenteric artery and their branches. The ileocolic artery, which appears to continue in the direct line of the main trunk of the superior mesenteric artery, supplies the last few inches of the ileum, the cecum, and a part of the ascending colon. It takes origin at or near the level of the third part of the duodenum, and descends, inclining to the right, to reach the ileocolic angle. The middle colic arises near the lower border of the pancreas, and directs its course toward the right, in the layers of the transverse mesocolon, where it divides into branches, each of which again divides to form a series of arches, joining on the inner side of the ascending colon with the right colic, and toward the splenic end of the tranverse colon in

*Read before the Southern Surgical and Gynæcological Association, Cincinnati, Ohio, December 14, 1915.

†Reprinted from International Clinics, Vol. II, Series 26.

an anastomosis with the ascending branch of the left colic artery. The sigmoid arteries, one to four in number, arise directly from the inferior mesenteric artery and, radiating outward and downward in the mesosigmoid, divide each into an ascending and descending branch; these, anastomosing with their neighbors, form a series of arches, from the curved side of which branches are given off, sometimes to form secondary arches, sometimes to run direct to the intestinal wall.

The so-called marginal artery is the result of anastomosis of the branches of the left colic and sigmoid arteries, extending from the splenic flexure to the lowest part of the sigmoid flexure. Here it stops, for the superior hemorrhoidal artery, which is the continuation of the inferior mesenteric trunk, after the sigmoid arteries have left, does not divide into two arch-forming branches, but runs directly to the intestinal wall. It is exceptionally important to bear this in mind, for at this so-called "critical point" of Sudeck, which is at the junction between the superior hemorrhoidal artery and the lowest sigmoid artery, trouble occurs if this knowledge of the blood supply is not kept in mind. Ligature of the superior hemorrhoidal artery and the lowest sigmoid artery below the "critical point" must almost inevitably result in gangrene of the portion of the rectum supplied by them. So in intestinal resections a knowledge of this cannot be overestimated.

It is, as I said, very important to have an accurate knowledge of the lymphatic distribution and the prominence of the lymphatic vessels. The distribution of the lymphatic glands is of great moment in all surgery for malignant conditions of the colon, because these are the agents which drain the part that is affected. Whereas a malignant disease of the colon may oftentimes remain a local one, still through these channels metastases occur, in spite of the fact that many claim the lymphatics in this structure are few as compared to those in the small intestine. They sooner or later carry the infection, and the surgeon, unfortunately, meets these cases usually after this has happened; namely, late in their course, and frequently so late that they are either inoperable, due to widespread metastases, or offer very slim chances for permanent relief when operation is resorted to. Furthermore, they are not brought to us many times until acute intestinal obstructions demands surgical intervention.

You will all agree with me, I am sure, that under these conditions we have at best a bad surgical risk. I know of no condition graver, nor one with slimmer chances of recovery, than a case requiring resection of the colon for cancer in the height of acute intestinal obstruction. On the other hand, when they can be operated on moderately early (and there should be no reason for delay now, with the better means at our command for diagnosis—and I refer here especially to the X-ray, which has been of such infinite value in clearing up this trouble) surgery offers most excellent promise. It is, however, a very fortunate fact that

malignant disease of the colon, barring exceptions, may remain for a long time a local process.

H. S. Clogg[1] points out, in a valuable paper, that cancer of the colon is in many cases a local disease, and that secondary visceral deposits are not the great barrier to any radical operation. Sir Berkeley Moynihan, in his recent book on abdominal operations, says: "We are, I think, entitled to believe that a carcinomatous growth of the colon, by reason of its small size, its (apparently) abrupt delimitations, its long restriction to the intestinal wall, the tardy appearance of the metastatic deposits and the paucity of the lymph-glandular supply, should prove amenable to successful attack by the surgeon. It would appear to be true to say that if cancer is to develop in the body, there are few places it could select with so happy a chance to the patient of ultimate and complete relief as the large intestine." Again, another authority, Charles H. Mayo, states in his paper, "Resection of the Rectum for Cancer of Sphincter," which he read before this association several years ago: "The inflammatory and cicatricial zone which surrounds such areas of ulceration acts as an effective cofferdam, preventing an early metastasis." I think these important observations above mentioned have been noted by most operators in this field, and they are observations which unquestionably add encouragement to surgery direct for the relief of cancer at this point.

During the past two years I have operated upon two cases of cancer of the colon where the process has been of long duration, and at the time of operation there was extensive dissemination and infiltration in the surrounding tissues. In the first case an extensive extirpation of the transverse colon was done, along with the removal of the gastro-colic omentum. The infiltration even extended (apparently) into the greater curvature of the stomach, for in ligating it off the attachment of the gastrocolic omentum, close to the stomach wall, there was noted infiltration of (apparent) carcinomatous tissue, and later anastomosis was made between the hepatic flexure and the descending colon. The patient, much to everybody's surprise, recovered *in toto*, and is still living and (apparently) doing well. This was two years ago this month.

The second case was operated on last spring, and there was such widespread cancer (the activity of the cellular proliferation had been infinitely more marked than is usually noted, starting from a ring-like primary stricture of the ascending colon, adenocarcinoma) infiltrating the lymphatics along the entire marginal artery of the colon, with a large nodule of carcinoma at the junction of the transverse and splenic flexure, and likewise the first few inches of the ileum from the ileocecal valve, that I did a complete resection of the colon with eight inches of the ileum. The ileum was laterally implanted into the sigmoid. Here likewise an uneventful recovery followed.

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[1] Lancet, 1908, ii, 1007.

These cases bear out what is agreed by many, that the progress in colon cancer is slow and the cellular proliferation is not very active; in fact, it is looked upon, as I have already said, as a local disease at first. With these fortunate facts all should be stimulated to institute much earlier intervention.

As an evidence of the wisdom of this I cite briefly the case of a man of 40 years of age upon whom I recall doing a resection of the descending colon for carcinoma which had not extended. This was done 10 years ago, and the patient is still living and in good health. Whereas these observations are usually the rule, exceptions occur frequently, and I recall many cases where the growth was rapid, a secondary metastasis of the liver occurring very early. A number of such cases where adenocarcinomatous strictures are well removed by resection and no other invasion noted, all promised well, but liver metastasis occurs with fatal results in 18 months or two years. However, radical procedure should be undertaken always, and at the earliest possible moment, as it offers the only promise. We all know the pathetic picture of those cases which rely on the use of the X-ray and radium as a means of help. They are distinctly of no value, and there is nothing we can offer, save the knife.

CHOICE OF METHODS FOR OPERATING.

These vary in the clinics of the different operators; some prefer the end-to-end method, some the lateral anastomosis. Of course, the thing of moment is to get well around the growth and do a widespread extirpation. After that is thoroughly done, the procedure of restoring the lumen is a minor one, providing the anastomosis is well done. The ideal method is end-to-end anastomosis, which can be done perfectly well, even though we have to anastomose the lumen of the small intestine into the large bowel.

The very first case I recall doing in my series was an adenocarcinoma in the descending colon; a widespread excision was done and an end-to-end anastomosis made by use of the Murphy button. This was used, I might say, because it was reported to me falsely that the patient was badly shocked and a time-saving device was required. At the completion of the operation I found this not true, however, and an uninterrupted recovery followed. This was many years ago, and I know the patient to have been alive five years afterwards, but I am unable to report further, as I have lost touch with the case. This was the first and only colon resection in which I have used the Murphy button. I have used it frequently in rapid resection of the small intestine where speed was demanded.

Since then I have always employed a lateral anastomosis by suture, except in four cases of resection of the entire cecum, part of the ascending colon, and a small portion of the ileum. In these cases lateral implantation of the ileum into the ascending colon was resorted to. The chief objection to an end-to-end anasto-

mosis (which, after all, is the most ideal method) is that the blood supply may be encroached upon sufficiently to possibly produce small points of necrosis at the suture line, and the chief cause of defeat in all intestinal work, namely, leakage, occurs; whereas, in lateral anastomosis, if the work is neatly and carefully done, such an occurrence is not liable to follow, and obviates the difficulty which occasionally arises in dealing with the mesenteric attachment.

In this series of 50-odd cases there have been but five complete resections of the colon, and I have embodied at the end of this report complete histories of these five cases. Colon resection, in its broad sense, for the relief of cancer, which we seem to have always with us, is an undisputed surgical problem; but the wide diversity of opinion in the surgical world comes with the radical operation for colon resection as practiced by Sir William Arbuthnot Lane for the cure of that vast array of conditions assumed to be caused by "intestinal stasis." All say that Lane's operation is radical work, and it is radical work; but, to emphasize how striking the diversity of opinion is, you will hear the remark: "Lane is too radical; he is ahead of his time; his colectomy is unwarranted." But usually when a man of authority is applied to for an opinion, I find there is not one who condemns the man or his method *in toto,* and no unfavorable opinion is noted. The time has not yet arrived, in my opinion, when we can either condemn the operation or accept it without hesitation, as Lane would have us do.

Lane unquestionably is a genius and a wonderfully able and skilful surgeon, and all of his work has been distinctly worth while and along markedly advanced lines. The words of comment made by Charles H. Mayo in his discussion of the article written by John G. Clark on the "Removal of the Colon for Obstructive Fecal Stasis, with Report of Eight Cases," read at the Atlanta meeting of this association two years ago, clearly shows how much Lane's opinions in the past have been thought of. He said on this occasion: "Lane at this time occupies a more enviable position than any other living surgeon in regard to his work. He was the first man to open the jugular vein and wash out clots in sinus thrombosis, following mastoid abscess. He has done more to put bone surgery on the map than any other living surgeon. His work on cleft palate has led to much discussion for relief of the condition. Lane's work and methods have been widely discussed and their influence broadly distributed. Adverse criticism has become less of late, particularly in England. This goes to show that his name and work are held in high regard in this country."

Never before in the history of surgery has the subject of intestinal surgery claimed more widespread attention. The colon with its fecal stasis is truly the bane of modern civilization. Whether the abnormalities of the colon produced by malpositions, kinking and adhesions are of congenital origin, or whether produced by bad workmanship on the part of Nature, as our English

friend would have us believe, it is a tremendous portal of entry for disease, in consequence of the lack of free drainage and the bacterial activity produced and generated here and carried far afield; therefore, it is justly held responsible as the primary source of infection. Lane emphatically states that it is the cause of all disease except cancer, and that the only medicine to relieve this condition is Russian oil. If that does not succeed, there is but one operation, namely, colon resection. His belief is that unless free drainage can be secured, absorption is going to continue. If the obstruction is such that it will not drain by the use of Russian oil, then the colon should be removed. Now, in just what percentage of cases does the profession-at-large look to the colon as the responsible factor in autointoxication, or as the portal of entry, as the cause of the vast army of disorders? is the great question at issue.

Authorities by no means agree as to how intestinal stasis causes alimentary toxemia, and not a few even deny that it is responsible for the toxic manifestations which are attributed to it, and are looking only to the teeth, tonsils, sinuses, or what-not, as the chief portals of entry in every case. But, be that as it may, there is one fact that can be affirmed without fear of contradiction, and, despite the difference of opinion, the condition is so frequent and prevalent as to warrant the belief that there is an intimate relationship between intestinal stasis and alimentary toxemia.

Alimentary toxemia is defined in the following words by F. W. Andrews: "The absorption from the alimentary canal by chemical poisons of known or unknown composition in sufficient amounts to cause clinical symptoms, the blood having served as the channel of distribution to the tissues which are poisoned." And many there are who believe that fecal stasis is directly responsible for many maladies, both of mind and body. The clinical picture in these cases is so well depicted by Lane, as well as by other noteworthy contributors, such as Smith, Goldthwait, Reynolds, Clark and many others in this country, that there is no need to touch on this.

J. E. Goldthwait of Boston is as ardent an enthusiast as Lane of England, although he believes that he can relieve, by his specific methods of treatment, this condition without colectomy. In a series of brilliant papers Goldthwait shows how faulty posture of growing children and of women and young girls tends to weaken the skeletal supports and to place at a disadvantage the ligaments and muscles of the abdomen and back. J. G. Mumford gives credit to Glenard for the angulation theory of stasis and autointoxication. In consequence, he cites the fact that "a great number of persons are the subject of congenital ptosis, and the anatomist long ago pointed out that one person in every five is born with a mesentery upon the entire colon, and that the stomach also is more closely attached. When such attachments fail to retract, the victim carries through life a fastrocolonic

ptosis." This is entirely in accord with the theories advanced by Lane as to the mechanics and the alterations which are undergone by the gastro-intestinal tract.

Lane stands foremost as the most ardent enthusiast in attributing autointoxication to stasis. In his article on "Chronic Intestinal Stasis," he states that, unless the capacity of the several tissues of the body to resist entry of certain organisms is inhibited by the autointoxication resulting from intestinal stasis, it is impossible for these diseases to develop. Therefore, to meet these diseases, he adopts means to improve the drainage scheme, whether simply mechanical or operative, with the most excellent results. This is nowhere better exemplified than in the extraordinary rapid disappearance of large tuberculous glandular masses in the abdomen; after disconnection with the large bowel the disease disappears, and the health and weight of the patient improve accordingly. On elimination of the supply of poison, the color of the skin changes with remarkable rapidity, the deep brown or coppery tint disappears in these cases (if they have simulated Addison's disease), and is replaced by the warm red color indicative of health.

The great difficulty in the treatment of chronic intestinal stasis and its result, so Lane says, is to recognize when it is too late to interfere; in other words, when the end result has assumed such proportions that the removal of the primary cause does little or no good. Again, as regards the influence of these toxins or poisons on the nervous system, Lane has seen a patient who has been confined to bed for many months, having neither capacity nor desire to stand or walk, and whose mental condition was such that she was regarded by many as an imbecile, become a happy, active and intelligent woman within a few weeks after removal of the large bowel.

I might add that during the Clinical Congress of Surgeons of North America, held recently in London, the most sought-after man there was Lane, and he, of course, attributes everything to the colon. He gave every facility for not only seeing him operate and remove colons by the score, but we were able to see his patients before operation and afterwards. I saw him do in one morning three colectomies, and I must admit they were most skilfully and masterfully done, maintaining in his clinic that they removed the cause of such ailments as stomach ulcer, gall-stones, tuberculosis, goiters, chronic arthritis and, in fact, the large number of diseases resulting therefrom. He actually closed cases with the gall-bladder full of stones, upon whom he had done colectomy, and mentioned to the audience the gall-stones would be taken care of now that the colon was out. He showed a boy with a supposed tuberculous arthritis of the wrist-joint, sent into Guy's Hospital for amputation of the forearm. The X-ray pictures clearly showed a disorganized joint. He left the splint on and removed his colon. This boy was shown at his clinic some few months following the operation with a cured wrist. A case of large goitre

was shown to be rapidly reducing in size following a colectomy. A young woman with widespread universal arthritis, with every joint in her body locked, was shown a month following a colectomy, and the remark he made was that she was progressing toward recovery, and could already use her fingers and hands to some extent; and so I could mention many other cases. I fail to remember the number of colectomies he has already done, but it is a very large number, and he is apparently doing them without mortality.

His short-circuiting operation, or the ileosigmoidostomy, he has abandoned, and said that in his later cases he would not have performed that operation could he have gotten the consent of the patient to remove the colon. As a matter of fact, I saw him do three colectomies on cases upon whom he had formerly done the short-circuiting operation, or ileosigmoidostomy.

Nassau[2] calls attention to a picture that is worthy of mention because it is so commonly noted by all of us, and so closely allied to this particular subject, namely, that when doing our common operation, appendectomy, how often do we see cases where the appendix is little at fault, but we have presented in many of these cases enormously distended ceca which are religiously left undisturbed, the bearers of which had complained constantly of annoyance from vague pains in the right iliac fossa; and other cases, of ventral fixation, nephrorraphies, gastro-enterostomies, in which ptosed and dilated colons were observed at operation, and in whom there had been but little abatement of symptoms or no improvement in the general health!

I am not going to take up your time further with any of the serious scientific problems which may speak for or against this operation as a justifiable procedure. Nor am I going into the long list of symptoms as given in the advertising pamphlets sent out by the different houses, setting forth albolene, Russian oil, liquid paraffin, and so on; for, although I am not an ardent enthusiast of so radical an operation as colon resection, I am convinced that there are cases manifestly calling for just such radical procedures.

This paper is based generally upon my own personal observations and impressions gained from seeing the work of others. I have not attempted to make an exhaustive review of the numerous contributions to the literature on the subject, and I believe my chief reason for reporting on this matter was the encouragement offered by the splendid result obtained in the first case in which I found it necessary to perform such a widespread resection. Briefly, the case of this patient is as follows:

A woman, 40 years of age, was brought to me from the country with so-called appendicitis. I operated on her at the Union Protestant Infirmary, and did the ordinary appendectomy. It was noted at the time that she had an enormous cecum very much ballooned, and the whole colon seemed to be redundant and big.

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[2]Annals of Surgery, 1913.

I remarked at the time that I thought that was probably the cause of her discomfort, and the appendix probably played no part in it. I was just leaving for my vacation, and did not see her afterwards. During my absence from town she was brought back to the Union Protestant Infirmary and operated upon again, on account of abdominal pain, by another surgeon. An ovary was removed, a ventral fixation of the uterus was done, an exploration of the entire abdominal cavity was made and the abdomen closed. No relief followed, and her discomfort continued. She entered the Union Protestant Infirmary again later on, and was treated for stomach ulcer without relief. During all this time she continued to have symptoms, and the supposition was that it was stomach ulcer that was causing them. The following winter she was brought to me; she had become very ill. There were vomiting, inability to have bowel movements, tenderness over the left abdomen and over the ileum, kidney secretion had decreased until she almost had suppression, and she was emaciated and markedly weak from lack of nourishment. The X-ray findings in her case were as follows: Following large doses of bismuth, there was shown kinking at the pylorus, also a lot of bismuth in the cecum and ascending colon. There were also shown a large cecum and a redundant loop of the ascending colon folded back on the cecum, and in this loop the bismuth seemed to be retained. Pictures were taken again at the end of 12 hours, showing the bismuth still present, as though the kinking or this folding of the colon back upon the cecum had obstructed the cecum so that there was no passage of the bismuth on through the large bowel. This was so convincing that I resorted to a resection to overcome the intestinal stasis from which she was suffering. A good recovery followed, and later on she was brought back to me, still without free drainage from the colon. X-ray pictures again showed interference at the point of anastomosis. I went in the second time and freed that, and from that time on she has had complete relief, gaining back her health slowly after the source of her absorption was removed.

This case was done three years ago, and only recently have I seen the patient, who tells me she is perfectly well, and in her presence I asked her husband what he thought of the result, in order to get his opinion, which all along had been most pessimistic. He assured me, with a great deal of gratitude, that he considered his wife a well woman. This case excited my interest, because the patient's condition was of such gravity that we feared an operative death, and undertook it with the greatest anxiety. This was long before I had seen any of Lane's work, and I was guided purely by the X-ray findings and clinical condition of the patient. If there ever was a case indicating fatal issue from absorption, this was one, and distinctly warranted the operation.

INDICATIONS.

I thoroughly agree with the opinion of Clark that we should not be too optimistic concerning Lane's theories and practices, for there is unquestionably a considerable element of danger, and a good, legitimate working basis would be to attempt relief by this procedure after other agents had failed, provided obstructive symptoms are evident. He applies the same rule to intestinal stasis as to cases of movable or floating kidney: no obstructive symptoms, no operation. While this will not apply absolutely, it is a good working basis. I believe that when the X-ray examinations show very definite angulation at the splenic and hepatic flexures, with large, redundant colons filling the pelvis, associated with evidence of toxemia, in which relief does not follow other known means, then colectomy should be resorted to before the cases become so toxic that they cannot undergo nor withstand the operation with safety.

MORTALITY.

In Lane's work, published in 1909, on "The Operative Treatment of Chronic Constipation," he states: "Except in patients who are supremely toxic and feeble, the removal of the large bowel is not accompanied with any especial danger to life. If the patient is very toxic, and the resisting power to organisms is correspondingly lowered, there is a considerable risk of infection of the incision in the abdominal wall. I have lost more than one patient in this way. I believe that infection takes place from the bowel which is being excised to the wound if it is allowed to rest upon it. I attempt to avoid this by fixing sterile impermeable cloths, not to the skin-edge, as I usually do to render infection from it impossible, but to the peritoneum, shutting off the divided soft parts from any possible contact with the bowel, whose circulation has been impaired during the process of excision. The peritoneal cavity seems quite able to escape this infection. If, however, the obstruction be acute and the intestines and abdomen be distended, the risks are those of the condition calling for interference rather than of the operation itself." These are Lane's opinions as to the dangers of the operation. The probabilities are, however, in the light of wider experience and fuller knowledge, that if better judgment is used in deciding which colon had better be removed and which had better be left, and if greater care is exercised in the carrying out of the various steps in the technic of the operation and post-operative treatment, there will arise a course in between, as it were, the ultra-conservative and the ultra-radical which will at all times be open to the well-balanced, thoughtful surgeon, and which will lead to a decreased mortality rate and a lowering of the percentage of unsatisfactory results in operating. It is purely a question of respecting your blood supply and making careful and neat approximation to assure against leakage.

COLON RESECTION FOR CONSTIPATION ALONE.

I cannot accept the opinion that an operation of such gravity should be resorted to for control and relief of this condition *per se*. From my limited experience, I should unreservedly say that not only is the removal of the colon too hazardous an operation, but one that is totally unjustifiable in these cases for the probable outcome of relief. Do I believe in any operation for the relief of this condition? Yes, most certainly I do, and have done many with excellent results, namely, partial or limited resections, and have achieved excellent results in those cases of long, angulated, redundant sigmoids by resection of the portion of the colon at fault. Some of the results have been really brilliant. I am not overoptimistic and overenthusiastic, and distinctly believe in adopting the "mid-path" or the conservative side of this problem, and I might say that my attitude is strengthened by the fact that out of some 50-odd cases of colon resections I have seen fit to do but five radical colectomies.

ILEOSIGMOIDOSTOMY.

In regard to this procedure, I might say that in none of my cases have I seen a condition that I considered warranted the so-called short-circuiting operation of Lane's (ileosigmoidostomy), and therefore have never performed an ileosigmoidostomy operation. It has never appealed to me in any way, and my only experience has been with one case in which I attempted to save the life of a patient practically dying from obstruction several months after this operation had been done at another hospital.

BRIEFLY SUMMARIZED.

1. So far as cancer of the colon is concerned, this is an undisputed surgical problem, and it should be dealt with by operative intervention and widespread resection done—the sooner, the better.

2. It seems to me that in analyzing the results of colon resection for other than malignant causes the most critical and careful judgment should be exercised, and no case reported favorably unless the case has been kept under the strictest surveillance for a considerable period, for its merits are to be judged not by its immediate, but by its ultimate results.

3. The operation is strictly of the major type, and should be undertaken only in obstinate and exaggerated cases; but they should not be waited upon so long as to bring about a toxemia that will of itself defeat the good effects of the operation.

4. It is distinctly too hazardous, as I have said before, to be undertaken purely for the relief of constipation alone. I feel that it is best in these cases to deal with the localized obstruction, or the actual sharp angulation, which is presented in so many of these obstinate cases, rather than do a complete and total resection.

5. There are dangers attending it, and they should not be lost sight of. They are, in the majority of cases, remote post-operative

ileus as well as immediate obstruction. These are the most common causes of the fatalities, as well as most of the ill-effects that may follow.

6. Theoretically, the colon is, fortunately, a part of the human anatomy which can be dispensed with without inflicting serious damage to the physiology that is the better part of it. It is needless to call attention to the fact that in most of the cases a considerable portion of the colon is always left, the sigmoid, and in a good many cases a part of the descending colon, if necessary, which is sufficient to compensate for and take on the function of the portion that has been removed, and, this amount maintained and free drainage established, intestinal toxemia ceases.

7. I have not observed that thirst in any of my cases was complained of, in spite of the physiologists pointing this out as one of the theoretical dangers. This is purely fallacious and incorrect, as is likewise their statement in maintaining that diarrhoea is a concomitant. This I have not observed to be a fact, nor have I seen any serious physiologic derangements in those cases that I have done. The patients have gained in strength and in weight, and in Cases I and III they have been made useful citizens, whereas before they were bedridden invalids.

8. The chief dangers that we have to keep before us are in the operation *per se* and in the possible immediate and post-operative obstructions that are liable to follow.

COMPLETE COLECTOMY.

CASE I.—Mrs. G. W., aged 40, married, was admitted to my service at St. Joseph's Hospital, February 6, 1912, complaining of severe attacks of pain in upper abdomen, vomiting, and retention of food, with marked weakness and loss of weight. Past history: Was brought to me July 14, 1911, giving history of pain and discomfort, for the last 10 days, over her appendix region. She entered the Union Protestant Infirmary, and I removed her appendix, following which she made an uninterrupted recovery. At the time of operation it was noted that the cecum was enormously distended and the whole colon redundant, and I expressed the opinion that she was probably suffering from the retention in the colon rather than from one in the appendix. During the summer of 1911, while I was away, she was again brought to Baltimore and operated upon at the Union Protestant Infirmary. The right ovary was removed and a ventral fixation done. Examination of gall-bladder, kidneys, etc., revealed nothing of importance, and her abdominal wound was closed. She returned home unimproved, and a few weeks later came back to Baltimore, under the care of a stomach specialist, complaining of severe pain in her upper abdomen. Her stomach was repeatedly washed and anodynes given for her pain during her stay of 10 weeks at the hospital. She again returned home without improvement. Present illness: Her present illness dates back to the summer of 1911. The clinical picture is one of the patient exhausted from vomiting

and suffering from severe abdominal pains. These pains are periodical in character and located chiefly in her upper right abdomen. She was brought in with a probable diagnosis of gallstones. The gastric contents were analyzed and found to be normal. X-rays were taken, following large doses of bismuth, with the following results: Stomach emptied itself very slowly, a distinct kinking was noted at the pylorus, the cecum and ascending colon were found to be markedly dilated and a redundant loop of the ascending colon folded back on the cecum, and produced a pouch in which the bismuth accumulated and was retained, showing the cecum had been obstructed below this point, due evidently to the kinking of the bowel. Heart and lungs present no abnormality of significance. The kidney output is very low. Patient is pale and anemic, and has lost considerable weight, due chiefly to her starvation.

Operation.—On February 8, under ether, abdomen was opened by a right median line incision. The pyloric end of the stomach came into view, and it showed a distinct kink, due to traction from below. The pylorus was found to be somewhat constricted and much thickened. Further examination revealed many adhesions tying the fundus of the gall-bladder to the pylorus. These adhesions also extended to the free border of the liver and the hepatic flexure of the colon, tying all these structures in a mass. The adhesions were all removed, thus freeing the hepatic flexure at the colon and relieving to a great extent the kink at the pylorus. The omentum and a loop of the small intestines were adherent to the parietal peritoneum in the cicatrix, resulting from previous lower abdominal incision. These adhesions were finally relieved with much difficulty, especially where the small intestine was caught. When the omentum was freed, the ascending colon was found to be tied to the scar a distance of three or four inches and almost completely obstructing the bowel at this point. This was also freed, and further investigation showed that the ascending colon was very long and redundant. It took about two hours to free the abdominal adhesions, which were largely the result of former operations, and I had a shocked patient to continue with, but concluded it was best to go on and do a partial resection of the colon, because of the marked redundancy of this organ. About 24 inches of the bowel, extending between the cecum below and over to the left arm of the transverse colon near the splenic flexure above, were removed. The mesenteric vessels were tied, a pursestring was put around the colon, it was clamped, cut across with a thermocautery near the splenic flexure, the end invaginated and the pursestring suture tied. This was reinforced by a few mattress Lembert sutures, and the same method of resection was done just above the cecum. A lateral anastomosis was then made between the cecum and the descending colon just below the splenic flexure. The abdomen was then closed with drainage.

CASE II.—Miss F. O., aged 37, American, was transferred to my service at St. Joseph's Hospital, November 24, 1914, with a

general vague history of illness dating back more than four years, which principally consisted of obstinate constipation, indigestion and pains in abdomen. The obstinate constipation dates back even further, and has been the predominating symptom in her case. The pain was not definitely localized in any particular part of the abdomen, save that it was more pronounced in the left lower abdomen, in the ileocecal valve, and she complained of it much more rarely when the bowels were freely moved; but they are never moved without the use of strong purgatives. As this symptom has grown gradually worse, it has now become very obstinate. She is a small woman, anemic and very nervous. I suggested the operation on account of this obstructive form of constipation, and on account of the X-ray findings, which showed a marked angulation at sigmoid, high angulation of splenic flexure, dilated transverse and ascending colon and cecum. Incompetency of the ileocecal valve, with quantity of bismuth enema in terminal ileum, also noted.

Operation.—Anesthetized with ether, abdomen opened by long left rectus incision; ileocecal area was then sought and brought up into the wound and the blood supply to the last two inches of the ileum ligated and severed between ligatures. The ileum was then clamped and severed by means of electric cautery several inches from the ileocecal valve. The ascending colon, which was markedly dilated, was then delivered into the wound, and the blood vessels in the mesocolon, beginning from below upwards were doubly ligated close up to the bowel margin. The same procedure was carried on until the colon was freed around to the sigmoid flexure, and anastomosis was made between the end of the ileum and through the upper portion of the sigmoid flexure, as indicated and shown in the figures. The bowel was then severed by cautery and the opening beneath the anastomosis closed by interrupted silk suture. A rubber tube was then passed into the rectum and through the anastomosis, three inches above it (as in all these cases); six ounces of Russian oil were then injected and kept in. I might say that in this case, as in all the cases, I employed subcutaneous salt solution through the entire operation, and 1000 c.c. were taken up. Daily afterwards six ounces of Russian oil were given through the tube and the tube left in for eight days. After this the tube was removed and the patient given, night and morning, two ounces of oil by mouth for 10 days. The wound healed under one dressing, and patient made an uninterrupted recovery. The lantern slides show the specimen which was removed and X-ray plates before and after operation.

CASE III.—Mrs. R. E. C., aged 30, married, entered hospital in my service November 17, 1914, with symptoms of pronounced abdominal pain and long-standing chronic and obstinate constipation. Her history dates back a number of years. She is rather a slender, frail, little woman, and has recently grown so weak and feeble that for a number of months she has been a bedridden sufferer. She has rather a pathetic history, in that during her

illness of five or six years she has had a great many surgical treatments. The first operation was supposed to have been a gastro-enterostomy for gastroptosis. No relief was gotten, and in June, 1913, a second operation was done, and no evidence of the gastro-enterostomy was found. The appendix was removed and abdominal adhesions severed. The rest in bed following this operation seemed to help her to some extent, but in a short while her symptoms recurred, and in April, 1914, she was again operated upon for abdominal adhesions, this time by myself, and I found adhesions running from the incisions and fixing the stomach pretty definitely to the abdominal wall, and also the colon to the abdominal wall. It was noted, however, in this operation that she had an enormously redundant and large looping transverse colon down into her pelvis. Nothing was done in the way of its relief, however, and she was kept in the hospital at rest for quite a little while, hoping that it would improve her general condition. The constipation was not improved, however, and no apparent help was gotten. She continued to complain of her nervousness and general weakened condition, associated with headaches, loss of appetite and dizziness. When I was applied to again to go in and see what I could do, I told them, judging from what I had seen at the former operation, that the only thing I thought would be of help to her would be to remove the colon, to get rid of her obstructive constipation.

Operation.—On November 10, 1914, I operated and took away her colon, using the technic that I have already described, and closed her without drainage. She made an uninterrupted recovery. The lantern slides show pictures before and after operation. I might say the X-ray findings in her case before operation show a long, circuitous, aberrant sigmoid, distended transverse colon and incompletely-filled cecum and ascending colon, probably due to impaction; also a high, angulated splenic flexure and tremendously tortuous upper rectum and sigmoid. A recent report from her physician states that she had some diarrhoea five weeks after returning home from the hospital. Previous to operation she had nervous attacks bordering on hysteria, but she never became unconscious. Since operation she has been quite free from these attacks, although at times still nervous. She looks improved, and her face indicates that she is considerably better. She has lost that haggard expression, and her general appearance and conduct are nearer normal. She has gained in weight, and is sufficiently strong to perform many of her household duties.

CASE IV.—Miss L., aged 30, Irish, admitted to my service at St. Joseph's Hospital, November 16, 1914, suffering with general arthritis. Every joint in her body locked. She had had rheumatism for many years; tonsils were removed three years ago without any benefit. Present illness dates back seven years, to an attack of rheumatism from which she has never recovered. The second bad attack began three years ago. She entered the Woman's Hospital and stayed 16 months. Plaster casts were

applied, limbs were baked, she was anesthetized and the muscles forcibly stretched by passive motion without improvement. I mention this to show that she has been through all methods of treatment, and was in the most pitiable state; in fact, in such a condition that I hesitated, for I thought her toxic condition would make her a bad surgical risk. At this time she could not move any joint, and was completely helpless; in fact, she had not a joint that was not involved. This condition has been present for the last four years, but it grew worse and worse as time went on. X-ray picture before operation showed a large rectum, circuitous, aberrant sigmoid, causing angulation of descending colon as it passes the crest of the ileum. The splenic flexure was high and transverse colon narrow, and on its hepatic end had an angulation as it approached the flexure. The ascending colon and cecum were dilated. The aberrancy was so great that the cecum and sigmoid were touching, one overlying the other. On account of the X-ray findings, and on account of the apparent helplessness of the case, unless something radical was done, I suggested operation. She went through it very comfortably without shock.

Operation, November 24, 1914.—This went well, done by the same methods as the others, but I noted at the time I was tying off the hepatic flexure that the peritoneum over the duodenum was interfered with, but it did not occur to me that it would interfere with the duodenum. Anastomosis was done and the abdomen closed without drainage. For several days all went well, then vomiting began, and this grew worse and worse. There was no ballooning of the abdomen, no evidence of trouble about the wound, which healed primarily, and there was no apparent infection. With the absence of distention of the abdomen and the wound closing as it did, I inferred this was a duodenal obstruction where the peritoneum had been stripped off, and I felt I could not remedy it. On the eighth day she died from exhaustion from vomiting. I had no means of getting a convincing autopsy, but feel death was due to duodenal obstruction where the peritoneum had been interfered with at the time of removing the hepatic flexure.

Case V.—Mrs. J. W. A., aged 67, was admitted to my service at St. Joseph's Hospital, May 11, 1915, suffering from pain in her abdomen, occasional vomiting and slight distention of abdomen. Four months ago she began to experience pain and discomfort in the right side, over the region of the appendix, which, however, has gradually grown more pronounced. Three weeks ago she stated that she could see and feel a large mass in her right side, which would grow very large and finally disappear, thus relieving her pain markedly. She consulted her physician, who also thought by abdominal examination he could palpate a lump in the abdomen. X-rays were taken and the doctor's diagnosis verified before she came to the hospital: an obstruction in the ascending colon as it joins the cecum. Absence of the shadow of the cecum due to an annular carcinoma at this point. Upon

entrance into hospital it was noted that her general condition was poor, rather thin, and she had lost considerable weight in last three months. Her chief complaint is a dull pain in abdomen and inability to keep food on her stomach, with marked constipation. The slightest amount of food seems to increase the pain and bring about marked fullness and distention of the abdomen. Bowels have been irregular for the last three months, and during the last 10 days she has had great difficulty in getting movement of bowels. Bladder active; urine shows slight trace of albumin, otherwise normal. Heart and lungs in good condition.

Operation, May 13, 1915.—Anesthetized with ether; abdomen opened by a vertical incision near midline, extending through upper and lower abdomen, and about 10 or 11 inches in length. Abdomen was explored and a large annular carcinoma of ascending colon, three inches above ileocecal valve, was noted. Also a large, hard carcinoma was noted in the mesenteric attachment near the splenic flexure. Smaller nodules of metastasis were seen through the mesentery of entire colon, extending into the mesentery of the ileum a distance of six or eight inches. Resection was begun eight inches from the ileocecal valve, including the ileum and the metastatic invasion of the mesentery. Blood vessels were ligated independently and separated between ligatures. The ascending, transverse and descending colons were likewise removed in similar manner around to the sigmoid flexure. The end of the ileum was then anastomosed by lateral implantation into side of sigmoid, a pursestring put around the bowel two and a half inches above, and the intestine crushed and tied off with a catgut ligature. The resected portion was incised just distal to the ligature and removed. The stump was then invaginated, pursestring tied, and stump reinforced with a few interrupted mattress stitches of fine silk. The opening in the mesentery behind the anastomosis was then closed with four interrupted silk sutures. A tube was then passed through the anastomotic opening into the small intestines and six ounces of Russian oil (paraffin) were injected and the tube clamped to prevent the oil from escaping. Abdomen closed without drainage. She made an uninterrupted recovery. The wound healed *per primam*, and she was discharged from the hospital three weeks following operation. No reaction whatever followed the operation, temperature never going above normal during entire convalescence. Bowels moved daily. Russian oil (six ounces) was injected into bowel through tube in rectum daily; tube remained in anastomosis six days. Specimen showed an annular carcinoma (adenocarcinoma) of ascending colon. The lumen of the colon was so strictured that it was almost completely obstructed. The opening was so small that it would admit only the point of a lead pencil. A nodule of carcinoma was also noted in the wall of the colon near splenic

flexure, and carcinomatous glands were observed all along the lymphatics in mesentery and along wall of ileum.

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THE NATIONAL BOARD OF MEDICAL EXAMINERS.*

By Louis A. La Garde,
Colonel, U. S. A.

THE National Board of Medical Examiners was created and organized by the late Dr. W. L. Rodman, president of the American Medical Association, and his first public announcement of its existence may be found in his presidential address, delivered befor the members of the association at the annual meeting in the city of San Francisco last June. In this address Dr. Rodman stated that the board was conceived to meet a situation which, under our peculiar form of government, results in hardship and embarrassment to those who for various reasons choose to change their location.

He resolved early in his career to lend his time and influence to improve on the method of licensure, which compels a man to be subjected to an examination when moving from one State to another, and he was thus prompted by his own experience when he moved from Louisville, Ky., to Philadelphia, Pa., in about 1896, at which time he was made to stand an examination, during which he wrote his papers sitting at the same table with two students whom he had taught. Not long after this experience he turned his attention to the solution of the problem.

In 1901, at the April meeting of the Committee on National Legislation representing the American Medical Association in the

*Paper read before Baltimore City Medical Society, March 17, 1916.

city of Washington, he outlined his ideas on the composition and the reasons for a central board. In the June 7, 1902, number of the *Philadelphia Medical Journal* there appears a second paper from his pen on "The Proposed National Examining Board." In all of his references to a National Board he sought to utilize the experience of both Federal and civilian members in the scheme of examination.

The need of a standard licensing body for all of the United States and Territories became so apparent that Dr. Rodman, as already stated, proposed a voluntary board, selected from the medical corps of the army, navy and Public Health Service, with other members selected from the Federation of State Examining Boards, and members from the medical profession of the United States.

The principal features in the constitution of the board recently organized are:

(1) The name of this board shall be the National Board of Medical Examiners.

(2) The domicile of the board shall be Washington, D. C.

(3) The objects of this board are: (a) The establishment of a standard of examination and certification of graduates in medicine, through which the recipient may be recognized for licensure in the practice of medicine in the United States, its Territories and extraterritorial possessions on presentation of the proper credentials of the board. (b) This board is desirous of co-operation with the boards of medical examiners in the individual States, Territories and extraterritorial possessions, by which licensure may be affected through registration of the credentials of this board in the same way that the discretionary powers of a State board affords recognition of the certificate of another licensing board. (c) The examinations are to be conducted by all modern means to accomplish practical, oral and written tests of the candidate's efficiency and qualification.

The personnel of the board at present is as follows:

(1) Dr. I. Wyllis Andrews, Chicago.

(2) Dr. H. D. Arnold, Boston.

(3) Gen. Rupert Blue, Surgeon-General, Public Health Service.

(4) Admiral W. C. Braisted, Surgeon-General, U. S. Navy, chairman.

(5) Dr. Isadore Dyer, New Orleans.

(6) Dr. Austin Flint, New York.

(7) Gen. W. C. Gorgas, Surgeon-General, U. S. Army.

(8) Dr. Herbert Harlan, Baltimore.

(9) Col. Louis A. La Garde, U. S. A., treasurer.

(10) Dr. W. L. Rodman (lately deceased), secretary.

(11) W. C. Rucker, Assistant Surgeon-General, Public Health Service.

(12) E. R. Stitt, Medical Director, U. S. Navy.

(13) Dr. Henry Sewall, Denver, Colo.

(14) Dr. Victor C. Vaughan, Ann Arbor, Mich.
(15) Dr. Louis B. Wilson, Rochester, Minn.

Hereafter the board shall comprise the heads of the Federal services mentioned, with an associate from each service. Three members are to be appointed from the Federation of State Medical Examining Boards and six members from the profession at large.

The board will hold its first examination this fall, the time to be announced later, in the city of Washington, where adequate laboratory facilities, equipment and clinical material have been placed at its disposal. Later, when the number of candidates increases, the examinations will be held in different parts of the country.

The relation of the State Examining Boards to the National Board of Medical Examiners will be touched upon by the next speaker, Dr. Herbert Harlan, and I will confine myself now briefly to the relation of the Federal services and the way in which we hope that the licentiates of this board are to fit ultimately into the scheme of medico-military preparedness.

The medical corps of the army, navy and Public Health Service are naturally much interested in any step that promotes medical education in this country. The efforts of this board aim at a standard of examination that is unsurpassed, and we believe that its purpose will have the effect to raise the standard of licensing boards to a higher plane.

In some of the old countries, like France and Germany, young men are sent to the army and navy medical schools, in the same way that we send youngsters to West Point and Annapolis in this country. There they are taught the medico-military profession at the expense of the State. In this country we get our recruits for the services out of the medical schools and by a course of intensive training, lasting nine months, and convert them into medico-military experts. In time of war we recruit the official personnel for the medical corps from the profession at large. It is thus seen that the relation of the Federal services to the problem of medical education and to the civilian physician are very intimate. Whatever favors your standard adds to our efficiency. This fact is very apparent to those of us who have been teaching in civil and military medical schools since the Council on Medical Education of the American Medical Association and the Association of Medical Colleges turned their attention to raising the standard of the doctor in this country.

In the licentiate of the National Board the services, and especially the army and navy, recognize a great opportunity to obtain men above the average of attainments for the medical corps and medical reserve corps. General Gorgas has been so impresed by the standard of the licentiate of the National Board that he offers to commission all successful candidates into the medical reserve corps of the army without further mental examination.

The reserve medical corps is a medium through which we hope for great things, in time of war especially. In the army the recipients of commissions in this corps hold the rank of first lieutenant on the *inactive* list, and when they are called to active duty in war their rank is fixed to correspond to individual worth. We now have 1600 commissioned officers of recognized standing and ability in civil life who are receiving instruction in the summer camps and through the correspondence course at Fort Leavenworth, with a view to teaching them the essentials in the duties of medico-military experts in active campaign.

In a crisis calling for 1,000,000 men to arms the profession would have to furnish at least 10,000 doctors to the army alone. It would probably require 4000 of this number to minister to the sick and wounded. The 6000 remaining would have to perform duty with troops pertaining to sanitation, hygiene, preventive medicine, administration in all that pertains to hospitals, hospital corps and ambulance companies, hospital trains and hospital ships, methods of rendering papers, procuring supplies, keeping records, etc.

If it were possible to teach the rudiments which pertain to the duties of medico-military experts to at least half of the 6000 referred to, they could promote the efficiency of the Medical Department very materially by assisting the regular and National Guard medical officers in instructing the rest. The work of the Medical Department in keeping up a maximum effective on the fighting line would be very much enhanced, and there would be no danger of a repetition of the breakdown that we experienced in 1898 in the war with Spain.

The value of the licentiate of the National Board of Medical Examiners to the reserve corps of the navy and Public Health Service is just as important to those services, except that they do not require medical officers in such great numbers. The Federal services hail the creation of the National Board as a valuable asset, and it will be appreciated more and more as its certificate becomes recognized. When the services can be supplied with a personnel from the licentiates of such a board, or medical men of like standard, we can warrant that the horrors of war will be very much lessened.

The obstacles to the establishment of a central board up to the present time have been the want of funds to meet the expenses until the board could become self-supporting. We are again indebted to Dr. Rodman for the solution of this problem. Through his efforts the Carnegie Foundation for the Advancement of Teaching is now providing the necessary funds. Dr. Rodman was proud of the fact that he had been instrumental in organizing such a body. In conversation with his friends he often referred to it as his child, his monument. A few hours before his untimely death, while he was yet in his conscious moments, among his last utterances he referred to his love for and faith in the National Board of Medical Examiners.

Book Reviews.

HABITS THAT HANDICAP. THE MENACE OF OPIUM, ALCOHOL AND TOBACCO, AND THE REMEDY. By Charles Towns. New York: The Century Company. 1915. Cloth, $1.20 net.

The recent sensational legislation against the traffic in habit-forming drugs has brought to light startling facts about the prevalence of drug addiction among all classes of people, not excluding doctors. Mr. Towns, whose life work is the study and treatment of the victims of these habits, and who is largely responsible for the present legislative campaign, here sums up his experience in regard to the prevalence of drugs, and the methods of treatment and cure; and he extends his discussion also to alcohol and tobacco. It is almost as important, he believes, that the public should be wary about many doctors as about the drugs themselves. That the treatment is not a fake, no more reliable man than Dr. Richard C. Cabot, of Boston, attests. Surely none in the profession would question the integrity of Dr. Cabot. When he then states that he is cognizant with the treatment and attests to its reliability, the profession should be willing to lend an ear to what Mr. Towns has to say. Mr. Towns is firmly convinced that an ounce of prevention is worth a pound of cure, or, employing an Irishism, don't give it. He is also of the opinion that most home cures and sanatoriums are worse than no treatment at all. He claims that his method—and Cabot substantiates him—accomplishes results with the least discomfort to the drug addict. Get the book. Read it, and get a better insight into the hows and whys of the confirmed drug user.

POTTER'S COMPEND OF ANATOMY. Edited by D. Gregg Metheny, M.D., L.R.C.P. and S. (Edin.); L.F.P.S. (Glasgow), associate in anatomy Jefferson Medical College, Philadelphia. Fifth edition, with 139 illustrations. Also numerous tables and 16 plates of the arteries and nerves. Philadelphia: P. Blackiston's Son & Company. 1915. Cloth, $1 net.

This little book is no more or less than it pretends to be, a quiz compend, but it is an excellent example of its kind. The contents are thoroughly reliable and trustworthy, and can be depended upon for review work for examinations of all kinds. If used in this wise, we can heartily endorse it. Students must remember that quiz compends are too skimpy for a constant diet, only giving the bare details of the subject under discussion. Therefore they should only be used for hasty review work. A most attractive feature is the banishment of embryology, histology and physiology from its pages, which are devoted entirely to gross anatomy. This is as it should be. Those changes in the nomenclature which have come into universal use have been included in the text. As a book of its class it cannot be beaten. Those looking for a condensed work on anatomy will be more than pleased with it.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, OCTOBER, 1916

PERNICIOUS ANEMIA, HEMOLYTIC JAUNDICE AND SPLENIC ANEMIA.

THE treatment of the above-mentioned conditions, all more or less associated in pathology and all tending toward a fatal termination, formed the subject of a notable symposium at the Detroit meeting of the American Medical Association, and the papers and discussions are published in full in the *Journal of the American Medical Association* of September 2 and September 9, 1916. The writer was much instructed in listening to this discussion, and he earnestly recommends the careful perusal of the published papers by the medical profession generally.

Pernicious anemia is a not uncommon affection, and it is almost uniformly fatal under the ordinary methods of treatment. Whether it is due to a lessened production of red blood cells by the bone marrow or to an increased destruction of these cells by the liver and spleen the present writer is unable to say. It is a chronic disease usually, and is subject to exacerbations and remissions under any form of treatment, consequently it is difficult to estimate the value of any special therapeutic measures. Two methods, however, have been employed, either singly or preferably jointly, that offer some hope of cure or of marked amelioration of this disease. These are transfusion of blood and splenectomy. Balfour of the Mayo clinic says that transfusion of blood in small quantities frequently repeated is not only a valuable measure, but is of great prognostic service in foretelling the probable results of splenectomy. If there is decided improvement in the patient's condition after transfusion splenectomy will also be indicated, but if repeated transfusions are not beneficial it is unlikely that splenectomy will accomplish any good result. McClure, formerly of the Halsted Clinic, also strongly advocated repeated

transfusions both before and after splenectomy. It is important to bear in mind that the blood of the donor and of the patient must correspond, and this requires careful tests by competent persons as well as the careful investigation of the donor for acquired or inherited diseases, such as syphilis, tuberculosis and malaria. In regard to splenectomy, Balfour says: "We believe that splenectomy should be considered in every case of pernicious anemia in which the diagnosis has been established and all possible etiologic factors which might be independently remedied have been excluded." Following splenectomy there is almost always temporary improvement. Unfortunately, however, this is usually not maintained, and Krumbhaar of Philadelphia presents statistics showing that of 153 patients operated on, 19.6 per cent. died within six weeks; a distinct improvement occurred in 64.7 per cent., and no improvement in 15.7 per cent. Of the individuals who showed improvement shortly after operation, a large number have failed to maintain their improvement or have since died. Although a few have continued in good condition for more than two years, in no case can it be said that a cure has been effected.

HEMOLYTIC JAUNDICE.

This obscure condition occurs in both a congenital and acquired form. It is an icteric disease not due to obstruction of the biliary passages, though it is sometimes associated with true biliary icterus. The characteristic symptoms are chronic jaundice of varying intensity, associated frequently with anemia of low grade, enlarged spleen, and often enlargement of the liver. Urobilin and urobilinogen are found in the urine, but no bile, unless there is also a true biliary obstruction. The stools are colored and contain bile. There is no pruritus or brachycardia. The patient often goes many years with but little inconvenience, though there is usually lowered resistance and loss of efficiency. From the beneficial effects of the splenectomy it is evident that in some manner the spleen plays an important rôle in this disease. The treatment of this condition, when it becomes necessary to resort to surgical intervention, is splenectomy. Dr. Chas. H. Peck of New York reported three cases of hemolytic jaundice in which the spleen

was removed with most remarkable results. In each case the jaundice began to fade in from three to four days, and had entirely disappeared in ten days. One case, a woman 30 years of age, jaundiced from infancy, was entirely clear in ten days, and has remained so for more than four years. The operative mortality is low. Elliott & Kanavel in 1915 collected in the literature 48 cases, with two deaths and 46 cures. In the Mayo clinic 10 cases have been operated, with one death and nine cures, one case being in good condition eight years after the spleen was removed.

SPLENIC ANEMIA, OR BANTI'S DISEASE.

By splenic anemia is meant a condition of marked destruction of the red cells with enlargement of the spleen often associated with cirrhosis of the liver and in its late stages with ascitis. It is chronic in its course, and may extend over several years before it finally reaches a fatal termination. There is no increase in the leucocytes, and may be an actual decrease, and this at once differentiates it from enlargement of the spleen due to leukemia. There is a tendency to hemorrhages, especially hematemesis and melena. While several diverse conditions may be confused with splenic anemia, such as syphilitic, malarial and other forms of splenomegaly—and these should be excluded by a careful search for the etiologic factor—still the beneficial efforts of splenectomy is apparent in most of these conditions after the failure of the other methods of treatment. In Banti's disease, or splenic anemia, ablation of the spleen is followed by most gratifying results in the earlier stages before hepatic cirrhosis or ascites has set in. Even in the late stages beneficial results are sometimes obtained either by splenectomy alone or combined with omentopexy. In this condition, as in pernicious anemia, blood transfusion is strongly indicated. Giffin reports 33 splenectomies for splenic anemia with uniformly good results. Three cases with cirrhosis and ascitis and two in the pre-ascitic stage of cirrhosis were operated on at the Mayo clinic, and four of the five were restored to normal health. One case with ascitis has remained well for seven years. The mortality of the operation is not prohibitive, and varies from 10 to 20 per cent. in the hands of different operators. Without splenectomy these cases all terminate fatally eventually.

Medical Items.

Dr. Lewis A. Sexton, second assistant superintendent at Johns Hopkins Hospital, who has been acting as admitting physician for the last month, has left with Mrs. Sexton to spend a month's vacation in Alaska and Northwestern Canada. Dr. and Mrs. Sexton will "rough it" during part of the long trip, and will fish and hunt. Dr. Sexton is an expert fisherman as well as a hunter.

An investigation was begun August 25 by the Johns Hopkins Hospital into the causes and spread of infantile paralysis. The research will be conducted by the department of children of the Harriet Lane Home and the department of pathology. Dr. Montrose T. Burrows of the pathological department and Dr. Kenneth D. Blackfan, assistant pediatrician of the Harriet Lane Home, will have charge. A minute record is to be taken of the cases in the city and of the movements of the victims in the weeks previous to developing the paralysis.

Dr. Wm. A. Frontz has been commissioned major in the medical corps of the British Army, and will sail at once to take up the work with the Harvard unit.

Dr. H. H. Biedler, chief surgeon of the Biedler and Sellman Sanitarium, has almost recovered from an illness that confined him to bed at the sanitarium for several weeks.

Dr. E. B. Beasley has been sent to New York by the United States Public Health Service to aid in combating infantile paralysis.

Dr. Wm. R. MacKenzie, a graduate of the College of Physicians and Surgeons, who has for two years worked in the surgical department at Mercy Hospital, left September 4 for Altoona, Pa., to practice medicine. He resigned from the hospital as an interne several days ago.

Congress has recently made an appropriation for 33 additional assistant surgeons in the United States Public Health Service. These officers are commissioned by the President and confirmed by the Senate. The tenure of office is permanent, and successful candidates will immediately receive their commissions.

After four years' service assistant surgeons are entitled to examination for promotion to the grade of past assistant surgeon. Past assistant surgeons after 12 years' service are entitled to examination for promotion to the grade of surgeon.

Assistant surgeons receive $2000, past assistant surgeons $2400, surgeons $3000, senior surgeons, $3500 and assistant surgeon-generals $4000 a year. When quarters are not provided, commutation at the rate of $30, $40 and $50 a month, according to the grade, is allowed.

All grades receive longevity pay, 10 per cent. in addition to the regular salary for every five years up to 40 per cent. after 20 years' service.

Examinations will be held every month or so in various cities, for the convenience of candidates taking the examination. Further information will be furnished by addressing the Surgeon-General, United States Public Health Service, Washington, D. C.

Dr. Edgar B. Friedenwald, 1616 Linden avenue, who has been serving in the medical reserve corps with the Thirty-sixth Infantry, United States Army, in Texas, since July 4, has returned to his home.

Dr. Wm. T. Farneyhough has taken up his duties as medical superintendent of Franklin Square Hospital, succeeding Dr. George D. Snarr, who left for Harrisonburg, Va., where he will engage in private practice.

The Association for the Study of the Internal Secretions has recently been inaugurated with the object of correlating the work of the physicians and other students of this phase of medicine in the different parts of the world. It is expected in this way to advance our present knowledge of this interesting subject.

Announcements of this new association indicate that libraries are to be established and a scientific bulletin published to contain a resume of all the work that is being done in this ever-broadening and highly profitable study.

The charter membership includes nearly three hundred physicians in every branch of medical practice and many of those laboratory workers who are delving into the fascinating mysteries of this field. An organizing committee consisting of the following gentlemen is caring for the preliminary work of establishing the association on a firm and useful basis: Dr. Lewellys F. Barker, Baltimore; Dr. Judson Daland, Philadelphia; Dr. L. R. DeBuys, New Orleans; Dr. Emil Goetsch, Baltimore; Dr. George H. Hoxie, Kansas City; Dr. John B. Potts, Omaha, and Dr. Henry R. Harrower, Glendale, Los Angeles, Cal., secretary.

This association desires those who have contributed articles pertaining to one phase or another of the study of the internal secretions to send six copies of each of their reprints to Dr. Harrower. These will be catalogued, cross-

indexed and made available in six different medical centers.

Those who are interested in this concerted study of endocrinology may with advantage communicate with the secretary, who will send full explanations of the aims of this association and a list of the charter members.

A Red Cross unit for service on the Mexican border is being recruited from among the nurses of the hospitals in Baltimore under direction of the Maryland branch of the American Red Cross, and will shortly be in readiness for any call from the national organization.

Dr. Louis L. Lloyd, 639 West Franklin street, who is seriously ill at the Maryland General Hospital, suffering with stomach trouble, is reported somewhat improved. Dr. Lloyd has undergone several operations.

The September meeting of the Baltimore County Medical Association was held Wednesday, September 20, at the Sheppard and Enoch Pratt Hospital, Towson, on invitation of Dr. Edward N. Brush, medical superintendent.

DEATHS.

Thomas Hall Emery, M.D., Monkton, Md., University of Maryland, Baltimore, 1896, aged 43, a member of the Medical and Chirurgical Faculty of Maryland, sanitary officer of the Tenth District of Baltimore county, died at Saranac Lake, N. Y., August 15 from tuberculosis.

E. Forest Harbet, M.D., Wyatt, W. Va., College of Physicians and Surgeons, Baltimore, 1913, aged 32, died at his home recently from tuberculosis.

James Edward Leary, M.D., Lowell, Mass., College of Physicians and Surgeons, Baltimore, 1894, aged 42, formerly a member of the Massachusetts Medical Society, died at his home June 11 from heart disease.

Cary Nelson Dunlap, M.D., Middlebrook, Va., College of Physicians and Surgeons, Baltimore, 1893, aged 46, died at his home August 2.

James D. Weaver, M.D., Eatonton, Ga., College of Physicians and Surgeons, Baltimore, 1882, aged 56; a member of the Medical Association of Georgia; a member of the State Board of Health, who was run over by an automobile in Eatonton August 4, died a day later as the result of his injuries.

James G. Fergusson, M.D., Forfarshire, Scotland, Johns Hopkins University, Baltimore, 1914, aged 27, who immediately after graduation went to England and on the outbreak of the war entered the Royal Army Medical Corps and was stationed at a base hospital for six months, afterward commissioned a subaltern in the "Black Watch," invalided for several months on account of wounds received in battle, was killed in action while serving with the British Army in France, July 14.

Edgar J. Spratling, M.D., Atlanta, Ga., College of Physicians and Surgeons, Baltimore, 1891; a member of the Medical Association of Georgia; a member of the staff of the State Hospital for Epileptics, Palmer, Mass., from 1898 to 1900, and of the staff of the Matteawan State Hospital, Matteawan, N. Y., from 1904 to 1908; medical director of the Empire Life Insurance Co., Atlanta; captain of F Company, Fifth Infantry, Ga. N. G., was shot and killed by a woman at the State mobilization camp, Macon, Ga., August 25.

Dr. George Hauer Everhart, head of the Skin and Cancer Hospital and one of the most prominent physicians in this branch of medicine in Baltimore, died September 17 at 3 o'clock at his residence, 100 West 25th street, from a complication of diseases. Dr. Everhart's health had been poor for several months, but he was able to attend to his practice until about a week ago. He was 49 years old.

From Shrewsbury, Pa., where he was born, Dr. Everhart came to Baltimore and began the study of medicine, graduating from the University of Maryland with the class of 1890. He also studied in Paris and Vienna, where he specialized in diseases of the skin.

William Rutledge Hudson, M.D., Huntingmore, College of Physicians and Surgeons, Baltimore, 1886, aged 52, a member of the Medical and Chirurgical Faculty of Maryland and a specialist on diseases of the nose and throat, demonstrator of anatomy in Baltimore Medical College, died in the Hotel Emerson, Baltimore, August 24, from nephritis.

William Rutledge Hudson, M.D., Huntington, W. Va., Johns Hopkins University, Baltimore, 1911, aged 32, a fellow of the American Medical Association, while endeavoring to save his brother-in-law and brother from drowning in the Shenandoah River at Luray, Va., July 23, was accidentally drowned.

S. P. Watson, M.D., Loris, S. C., College of Physicians and Surgeons, Baltimore, 1884, aged 54, formerly a member of the South Carolina Medical Association, died at his home August 14.

THE TREATMENT OF INFANTILE PARALYSIS.

The following excellent statement, concerning the treatment of infantile paralysis, was prepared for the State Department of Health for publication in *Health News*, and is here reproduced by permission.

The treatment outlined is that adopted by most of the orthopedic surgeons at the present time, and is practically that employed by the physicians and surgeons now caring for the patients in the Health Department's hospitals:

THE TREATMENT OF INFANTILE PARALYSIS.

(With Especial Reference to the Earlier Stages.)

By Robert W. Lovett, M.D.,

Professor of Orthopoedic Surgery, Harvard University, and Surgeon to the Children's Hospital, Boston, Mass.

INFANTILE paralysis, or acute poliomyelitis, is a general infection characterized by its attack on the cerebrospinal axis. The pathological condition is essentially a hemorrhagic myelitis accompanied by a mild meningitis, both of which are often more widely distributed than the clinical symptoms would seem to indicate.

The changes in the cord consist of hemorrhages for the most part punctate most marked in the anterior of the gray matter and of a very extensive perivascular infiltration. The latter process causes a narrowing of the lumen of many of the terminal arteries supplying the motor cells, so that anemic changes even to the point of necrosis may occur in them. In addition to this, the posterior root ganglia are involved. From this stage the process in cases which do not die consists in an absorption of the infiltration about the vessels, allowing the blood to flow through them to anemic cells, which resume their function unless too severely damaged, and absorption of hemorrhage. This is the period of so-called "spontaneous improvement" supervening directly upon the acute process.

For purposes of treatment, the disease may be divided into three stages: (a) The acute stage, beginning with the acute attack and ending with the disappearance of the tenderness (matter generally of from four weeks to three months); (b) the convalescent stage, from the disappearance of the tenderness until the disease has become practically stationary (a matter of about two years); (c) the chronic stage, which begins about two years from the onset.

ACUTE STAGE.

From the pathology it may be seen that the physiological requirement of this stage is rest, in order that nature may be given a chance to repair the damage so far as possible by absorption. It is not reasonable during this time to excite the peripheral ends of hemorrhagic and anemic nerve centers by massage, electricity and attempted movements. The tenderness must be accepted as evidence of an active process still going on in the cord, and so long as it exists the patient should be let alone. Massage at this time may cause great increase of pain and tenderness, and may

seriously delay recovery, and there is no evidence whatever to show that the use of electricity at this stage is of any value.

During this stage the patient should be kept quiet. Joints will not ankylose, hopeless muscular trophy will not occur, and by this proceeding the damaged cord will have the best chance to repair, and repair to the highest degree is desirable. One of our chief gains of late has been the avoidance of meddlesome and useless early therapeutic measures. There is evidence that the use of hexamethylenamin in monkeys diminishes in them the risk of infection somewhat, but there is nothing to show that it has any effect after infection has occurred, but as the drug in moderation is harmless, it is extensively used at this stage, and may be of value. There is no serum or drug or proceeding that is known to avert the infection or to limit the paralysis, although Netter of Paris has administered the blood serum of recovered patients to those in the acute stage in a small series of cases, but the method is wholly experimental. The use of strychnine and ergot is not to be advised. Deformities should at this stage be carefully prevented. The feet should be kept at right angles to the legs, to avoid the most common deformity, "dropped foot." The knees should be kept extended unless this causes great pain. Lateral curvature of the spine should be looked for, and, if it is present, attitudes increasing it should be avoided. These deformities may begin in the first weeks after the onset, and are largely preventable, and if they are allowed to occur, constitute a great obstacle in the later treatment.

When the tenderness has diminished, it is desirable to place the patient in a warm saline bath into which he may be lowered on a sheet once a day, and in which he may be able to move his limbs without pain. This is not desirable in the first days of the disease.

The treatment of this stage may be summarized as consisting of rest and the prevention of deformities.

THE CONVALESCENT STAGE.

With the disappearance of the tenderness, the acute process in the cord may be assumed to have reached a stage when therapeutic measures may be begun, but probably in no case should they be undertaken in less than four to six weeks from the onset. Of late much has been said as to the advisability of keeping such convalescents in bed for an indefinite time, and there is no question that most cases of this disease are allowed to overdo to their own detriment. But prolonged recumbency for children is unnatural and undesirable, physiologically and mentally. Moreover, it has been too much the custom to allow such children to sit and lie around until they have acquired flexion deformities of the hips, knees and ankles, and the best practice at present consists in getting these children into the upright position early in the convalescent stage.

The upright position is desirable not only because it antagonizes the evils of the permanent sitting position, but because the effort to balance on the feet instructively excites to effort a large number of muscles not otherwise to be reached, and is a valuable form of muscle training.

If the patient can stand and walk without leg braces, so much the better. If such apparatus is needed to permit ambulatory activity, it should be used, but only in walking, and in early cases, never continuously. The most commonly required form of ap-

paratus is the Thomas caliper knee splint, which holds the legs extended and prevents the foot from dropping. Crutches may or may not be required. If gastrocnemius paralysis is present, high heels should be continuously worn. If abdominal weakness is present (a condition most often overlooked), a supporting abdominal corset should be worn continuously, and scoliosis demands the same treatment from the outset.

A patient who has been long in bed when first put on his feet in braces is often unable to balance even if he has the requisite muscular strength, and the cultivation of his sense of equilibrium must be taken up separately. A good general rule with regard to the use of apparatus is that it should be used when the patient cannot stand without it or if, in standing, a position of deformity is assumed. Deformity leads to stretching of soft parts, which is always detrimental, and if persisted in, to permanent bony changes.

Fatigue is always detrimental and a source of danger at this stage. Muscles are often more weakened than totally paralyzed in this disease (in the proportion of about 9 partial to 1 total paralysis in the Vermont figures), and the danger of overusing such partly paralyzed muscles even by mild activity is very great and retards recovery, and if persisted in does permanent damage. The worst advice that can be given to a patient in the light of our modern knowledge is to use his muscles as much as he can. Patients in the convalescent stage should be most carefully guarded in the matter of too much walking.

There are four therapeutic measures to be considered at this stage: (1) Massage, (2) Electricity, (3) Heat, (4) Muscle Training.

(1) *Massage* empties mechanically the veins and lymphatics, it apparently helps to preserve the condition of the muscles, and it stimulates the flow of blood to the limb, and nothing more, so that too much must not be expected of it. It does not promote the transmission of impulses from brain to muscle, and its action seems wholly local. Given for too long a period, or roughly, it does harm and fatigues the muscles.

(2) *Electricity.* The use of Faradic electricity gives a mild form of muscular exercise as will cause muscles to contract which will not do so voluntarily, and apparently does nothing more, and Galvanic electricity and the newer currents are supposed in some mysterious way to do good, but in experience of many years with and without electricity used in all forms and under many conditions of control, the writer has never been able to satisfy himself that it was of any use whatever in any given case. There is no possible objection to its use if strong currents are not used, provided the other measures of proved usefulness are also employed. But electricity has done an indefinite amount of harm in this disease, because it has deluded the parents, and often the physician, into thinking that the patient was being adequately treated by that alone, while serious deformities were developing and valuable time being lost.

(3) *Heat* is of value in promoting circulation and in raising the temperature of the limb to a point where muscular action is better performed. It also probably adds to the efficiency of massage by bringing the blood to the surface, and should precede rather than follow the rubbing.

(4) *Muscle Training* is doubtless the most valuable and reliable

of these measures. It consists in an attempt to drive an impulse from the brain to the affected muscle by a new route. The bundles of motor centers are connected with each other and with the muscles by most intricate connections, and in the partial destruction of such centers, which is more common than their total destruction (as shown by the predominance of partial paralysis), it is obviously reasonable to attempt to find and cultivate a new route for an impulse by calling for the performance of a motion and aiding the performance of that motion by the hand. With subsequent attempts the voluntary control is likely to increase, and in the opinion of the writer we have in carefully-directed muscle training at this stage the most valuable part of our therapeutic equipment.

In Vermont, in a period of three months, a quantitative examination of the muscles (Lovett and Martin, *American Journal of Orthopedic Surgery*, July, 1916) showed that in cases treated by muscle training the expectation of improvement was as follows: Under treatment by an expert, 6 to 1; under home muscle training under supervision, 3.5 to 1; home training without supervision, 2.8 to 1.

Deformity in this stage is to be removed as it occurs. This can be done by stretching with or without anesthesia, tenotomy, myotomy, faciotomy. It must be remembered that it is easier to prevent than to correct deformity. When fixed deformity is present, it must be removed before undertaking mechanical or operative treatment.

THE CHRONIC STAGE.

This begins in about two years from the onset, and it is in this stage that the question arises of performing operations to improve function or to increase stability of the paralyzed joint. In the first class are to be mentioned tendon transplantation and nerve transplantation, and in the second the artificial ankylosis of joints (arthrodesis), silk ligaments to support dropped feet, the removal of the astragalus (astragalectomy) and similar operations.

Surgeons of experience are agreed in all parts of the world that these serious operations are not to be undertaken until at least two years after the onset of the paralysis. But in this stage probably the majority of cases will still be non-operative, because the distribution and extent of the paralysis is too often of such a character as to make operative interference unlikely to be of much value. In such cases the same general principles of support by apparatus will remain much as they were in the preceding stage, but as one gets further away from the acute attack, the prospect of muscular gain becomes less good, a consideration which emphasizes the importance of seeing that the care of these cases in the early stages is as efficient as it can be made.—*Weekly Bulletin of the Department of Health, City of New York.*

BUBONIC PLAGUE.

It is a remarkable fact, confirmed by many observations, that many physicians who have devoted considerable labor to the study of a particular disease have themselves died of that disease. One of the most interesting examples is that of John Daniel Major, born August 16, 1634, in Breslau, a physician and naturalist of no mean ability. Bitten early by the wanderlust,

he studied at Wittenburg, took courses at many of the schools in Germany, and finally went to Italy, where he received the degree of doctor of medicine at Padua in 1660. Returning to his own country, he resided for a short time in Silesia, and in 1661 married at Wittenburg, Margaret Dorothy, a daughter of the celebrated Sennert. The following year his young wife was stricken with plague and died after an illness of eight days. Distracted by his loss, Major wandered up and down Europe studying plague wherever he found it, in the hope that he might discover a cure for the disease which had bereaved him. Spain, Germany, France and Russia were visited by him. He settled in 1665 in Kiel, where he was made professor of botany and the director of the botanical gardens. He made frequent voyages, however, always in quest of the remedy for plague. Finally, in 1639, he was called to Stockholm to treat the queen of Charles XI, then ill with plague. But before he could render her any service, he contracted the disease, and died on the third of August.

The bubonic plague of today is identical with the black death of the Middle Ages. Primarily a disease of rodents caused by a short, dumbbell-shaped microscopic vegetable, the pest bacillus, it occurs in man in three forms—the pneumonic, which has a death rate of almost 100 per cent.; the septicemic, which is nearly as fatal, and the bubonic in which even with the most modern methods of treatment the mortality is about 50 per cent. It is a disease of commerce, spreading around the globe in the body of the ship-borne rat. It is estimated that every case of human plague costs the municipality in which it occurs at least $7500. This does not take into account the enormous loss due to disastrous quarantines and the commercial paralysis which the fear of the disease so frequently produces.

The disease is now treated by a serum discovered through the genius of Yersin. This is used in much the same way as is diphtheria antitoxin.

Plague is transferred from the sick rodent to the well man by fleas. The sick rat has enormous numbers of plague bacilli in its blood. The blood is taken by the flea, which, leaving the sick rat, seeks refuge and sustenance on the body of a human being, to whom it transfers the infection.

Since plague is a disease of rodents, and since it is carried from sick rodents to well men by rodent fleas, safety from the disease lies in the exclusion of rodents, not only exclusion from the habitation of man, but also from the ports and cities of the world. Those who dwell in rat-proof surroundings take no plague. Not only should man dwell in rat-proof surroundings, but he should also live in rat-free surroundings. The day is past when the rodent served a useful purpose as the unpaid city scavenger. Rats will not come where there is no food for them. Municipal cleanliness may be regarded as a partial insurance against plague. The prayer that no plague come nigh our dwelling is best answered, however, by rat-proofing the habitations of man. Modern sanitary science has evolved a simple and efficient weapon against the pestilence which walketh in darkness and striketh at noonday, and the United States Public Health Service has put this knowledge into practical operation, and thus speedily eradicated plague wherever it has appeared in the United States.

Publishers' Department.

Danger Due to Substitution.

HARDLY another of all the preparations in existence offers a wider scope to imposition under the plea of "just as good" than the scientifically standardized Eucalyptol.

The most recent fraud practiced in regard to this product is an attempt to profit by the renown of the firm of Sander & Sons. In order to foist upon the unwary a crude oil, that had proved injurious upon application, the firm name of Sander & Sons is illicitly appropriated, the make-up of their goods imitated, and finally the medical reports commenting on the merits of their excellent preparation are made use of to give the desired luster to the intended deceit.

This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

Half a Century's Progress.

OCTOBER, 1916, points an epoch in the history of Parke, Davis & Co. The house was founded in 1866—just fifty years ago this month—largely upon the optimism of three or four determined men, backed by a capital that would seem insignificant today. There was nothing in its unpretentious origin to foretell the success of after-years. And by success we mean not merely material prosperity, but also that broader and more enduring success that is based upon good-will and confidence.

Manufacturing pharmacy was then a crude, imperfect art. Bacteriology, pharmacology and biological pharmacy were as yet unborn. There were no curative sera or vaccines in those days. Prophylaxis was in its infancy. Standardization was unknown.

Fifty years have wrought marvelous changes in means and methods for the treatment of human ills. The materia medica has been amplified beyond the dreams of the earlier investigators. Knowledge of pathology has immensely broadened. The empiricism of the past has given way to rational therapeutics, and medicine is taking its rightful place among the sciences.

In all these forward movements Parke, Davis & Co. have had some part—notably as

discoverers of new vegetable drugs, as inventors of new chemical compounds, as pathfinders and producers in the field of biological manufacture, as investigators in original research, as pioneers in both chemical and physiological standardization.

The past half century, as we have intimated, has been remarkable in its contributions to the newer materia medica. What will the next fifty years bring forward? Time alone can write the answer. Ours is a progressive age. The science of medicine has not reached its highest development. The physician's armamentarium will be further enlarged and fortified. New remedial agents will come into being. Many existing products will be improved. And with the fulfillment of these conditions Parke, Davis & Co. (if we may judge the future by the past) are certain to be identified.

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istered with satisfactory results in neuralgia, chorea, spasmodic asthma, pertussis, hysteria, dysmenorrhea, insomnia, infantile and puerperal convulsions and the opium habit."

A sample bottle may be obtained by addressing the Laboratory of John B. Daniel, Inc., Atlanta, Georgia.

The Tuberculosis Invalid.

THE pricking of the Friedmann bubble but served to still further confirm and accentuate the vital importance of the well-defined methods of treatment for tuberculosis that have given such encouraging results, i. e., fresh air, sunshine, rest, nutritive reinforcement and judicious medication. A proper combination of these four remedial factors is practically certain to place the incipient tuberculosis invalid upon the road to recovery, if the patient is intelligently handled and the treatment persisted in. While it is, of course, acknowledged that the first three non-medicinal agents referred to constitute the vital elements of the upbuilding regime, considerable aid is afforded by judicious medication. Hematinic reinforcement should certainly not be neglected, in view of the secondary anemia which is almost always apparent. Among the agents which have produced the best results in the revitalization of the blood, Pepto-Mangan (Gude) is the most generally eligible and acceptable. As it is thoroughly palatable, neutral in reaction, free from irritant properties and devoid of constipating effect, the digestion of the patient is not disturbed, while the appetite and general vital tone improve more rapidly and satisfactorily than when hygienic and nutritive measures are depended upon exclusively.

Straining at Stool.

IT is pretty safe to say that any bodily condition that is aggravated by pressure or congestion is aggravated by that daily straining at stool which is the rule rather than the exception with such a large percentage of humans.

When one stops to realize that in the act of defecation every abdominal muscle is brought into play, and that many individuals customarily strain at stool with a force great enough to cause their faces to flush and their temporal veins to bulge out, then it is that one appreciates the tremendous force brought to bear locally upon the abdominal and perineal muscles and generally upon the whole body.

Since defecation is a necessary function and cannot be suspended, it would seem that the best remedy for the difficulty of defecation would be to supply the lubrication that is often lacking and thus bringing about the necessity of straining at stool.

Whatever will supply such lubrication without enervation or untoward after-effect would seem to be the most desirable method.

There is one outstanding reason why "Interol" does away with, or at the very least minimizes, straining at stool, namely, "Interol" has a peculiar lubricating body, by which it mixes with the feces before they are feces, spreads over and mixes with them and lubricates them in their passage through the colon, until they reach the rectum, from which they

are finally expelled without necessity of very much straining.

There are other features "Interol" possesses, but this one is perhaps the greatest, and if you are personally interested in this subject we would be very glad to send you a pint bottle with our compliments, so that you may make personal observation without having to take our word for the merits of "Interol." Van Horn & Sawtell, 15-17 East 40th street, New York City.

Vaginal Discharges.

In many instances vaginal discharges persist for the reason that no energetic local measures are taken to combat the causative condition. Thus, in vaginitis, of either specific or non-specific origin, if local applications in the form of tampons soaked in an antiseptic solution of positive value were employed in a systematic manner, relief would follow. In this connection the more than ordinary value of ECTHOL (Battle) in vaginal discharges may be mentioned. In vaginitis, used on tampons, it exerts its germicidal influence on the causative organisms and brings about a gratifying relief from the annoying features accompanying the vaginitis. ECTHOL will also be found of much service in cervical erosions.

Typhoid Fever: A Rational Treatment.

"In the treatment of typhoid fever, what is necessary?" asks a medical writer, who proceeds to answer his own question in this wise:

"1. Endeavor to cut short the course of the attack and to lessen the danger period during which there is risk of complications.

"2. Meet any complication which may arise and be ready with the indicated treatment in the event of such complications.

"3. Guard against the danger of relapse by prolonging treatment beyond the period of symptoms and by general supervision during convalescence.

"4. Demand rest in bed and a milk diet, with unsweetened lemonade or barley water.

"5. Combat the effects of the toxemia from the infecting organisms by administering Typhoid Phylacogen."

Typhoid fever, as is well known, is an acute infectious disease, due to the entrance into the body of the bacillus of Eberth, commonly designated the bacillus typhosus. And while this bacillus is recognized as the specific cause, it is conceded that complicating organisms, as the bacillus coli communis, the bacillus dysenteria, the paracolon bacillus, the pneumococcus, the staphylococci and the streptococci, may play an appreciable part in the disease process.

In view of these facts, treatment with Typhoid Phylacogen would seem a rational procedure, this phylacogen consisting of a culture filtrate of the bacillus typhosus of Eberth and mixed infection phylacogen. In support of the treatment it is said that a marked effect in all favorable cases is the comparatively prompt subsidence of the fever and the early establishment of convalescence. It is also pointed out that, while shortening the disease period, this therapy also simplifies treatment. It consists ordinarily of one injection a day and does away with ice, the bathtub and supplementary attendants. For the technique of administration, suggestions as to dosage, etc., physicians are referred to the pamphlet, "Typhoid Phylacogen," issued by Parke, Davis & Co., a comprehensive booklet containing information that cannot fail to be of interest and value to any practitioner.

"Many cases of acute coryza and naso-pharyngeal irritation are often due primarily to the streptococcus rheumatics and respond to the usual rheumatic therapy."

In these cases, commonly called "colds," generally deep-seated, painful and exhausting, Tongaline mitigates the congestion and by rapid elimination of the poisons or germs, promptly relieves a condition often very obstinate, and if not corrected within a reasonable time, attended with serious results and always with a tendency to become chronic.

For special stimulation to the kidneys, Tongaline and Lithia Tablets; if malaria is indicated, Tongaline and Quinine Tablets.

Not a Digestive Substitute.

The amount of actual harm done with the best intention, by continually supplying the digestive organs with digestants or ferments, instead of encouraging them to generate their own, is doubtless greater than we realize. It is not very often that one need order predigested food for a patient, although occasions may and do present themselves when this is advisable.

But the indiscriminate use of pepsins and similar substances from the vegetable kingdom, in the management of many patients with weakened digestive powers, is scarcely to be justified. A much more useful remedy, because of its being a true stimulator to the digestive functions, gastric and intestinal, is Seng. This well-known preparation contains the active principles of Panax (Ginseng), and is especially useful because it stimulates the physiologic activity of the digestive glands and thus "helps them to help themselves"—obviously the most desirable therapeutics in all functional cases. It should be remembered, therefore, that Seng is not a ferment to digest food which weakened organs cannot care for in their natural manner. Instead, its action is to restore tone and vigor to the secretory structures so that they are able to evolve and supply their own ferments. Seng is a very agreeable remedy to take, and its benefits are manifested in surprisingly short order. In convalescence from fevers or diseases impairing the digestive functions it is unquestionably one of the most efficient remedies being used by medical men today.

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OUR house will celebrate its fiftieth birthday on the Twenty-sixth of October. This is therefore the year of our Golden Jubilee.

At such a time it is fitting that we should recognize in a public manner one of the fundamental causes of our success. This is found in the confidence bestowed upon us for fifty years by those whom we have sought to serve. Without their support we could have done nothing. Lacking their co-operation we should long since have ceased to exist.

Our appreciation of this truth is profound and heartfelt. We acknowledge our indebtedness with gratitude, and during the second half century of our existence we shall strive in every way to be worthy of the trust reposed in us by the medical and pharmaceutical professions of the world.

PARKE, DAVIS & CO.

October 1, 1916.

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